K972627

AUG 13 1997

8.0 PREMARKET NOTIFICATION 510(K) SUMMARY

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Contact Person: The same as above.

Date: 07/11/97

Trade Name: Immunodepleted Factor V Deficient Plasma (Human, Dried)

Common Name: Not applicable

Classification Name: Plasma, Coagulation Factor Deficient (per 21 CFR section 864.7290)

Equivalent Device: Dade® Immunoadsorbed Factor V Deficient Plasma (Human), K912679

Description of Immunodepleted Factor V Deficient Plasma:
Pacific Hemostasis (PH) Immunodepleted Factor V Deficient Plasma is a lyophilized preparation of fresh human plasma with added buffers. PH Immunodepleted Factor V Deficient plasma is intended for use in a clinical laboratory for the quantitative measurement of Factor V activity. The product is prepared from pooled normal plasma depleted of factor V by immobilized, highly specific antibodies. The Factor V activity contained in the product is less than 1% of normal levels. All other coagulation factors are within the normal range. The reconstitution volume is 1.0 mL (with deionized or distilled water). The product is available in packages containing 10 vials. The reconstituted plasma is stable for 8 hours when stored stoppered at 2-8°C. Each unit of source material used in the preparation of this product has been

tested by an FDA approved method and found non-reactive for HB_sAg (Hepatitis B Surface antigen) and negative for antibodies to HIV and HCV. However, since no known test method can offer complete assurance that product derived from human blood will not transmit Hepatitis, AIDS, or other infectious diseases, this product should be handled as potentially infectious biological material.

Intended Use of Immunodepleted Factor V Deficient Plasma

Pacific Hemostasis Immunodepleted Factor V Deficient plasma is intended for use in a clinical laboratory for the quantitative measurement of Factor V activity. Factor V activity in patient or control plasma is assayed by the amount of Prothrombin Time (PT) correction produced by the test plasma when mixed with Factor V deficient plasma. Results are compared to the degree of PT correction of a reference plasma with known Factor V activity. A pool of normal plasma is considered to yield 100% correction in the PT time, and has 100% of the normal Factor V concentration.

Summary of Performance Data For Substantial Equivalence Comparisons

Pacific Hemostasis Immunodepleted Factor V Deficient Plasma was compared to Dade® Immunoadsorbed Factor V Deficient Plasma (K912679). Both products are lyophilized preparations of human plasmas. The Factor V level in both is less than 1%; all other coagulation factors are within the normal range. The intended use for both products is identical; for the quantitative measurement of Factor V activity in patient plasma.

Day-to-day precision studies were performed to assess the reproducibility of the Factor V standard curve prepared with the immunodepleted plasmas. One lot of Pacific Hemostasis (PH) Universal Coagulation Reference Plasma (UCRP, with known FV Activity) was used to generate the Factor V standard curves. PH Thromboplastin-D was used as the Prothrombin Time reagent, and PH Diluting Fluid (Barbital Buffered

Saline) was used as the diluent. All testing for the day-to-day precision studies was run on the MLA®-1000C™. This is an automated coagulation analyzer, thus minimizing imprecision introduced by human error (i.e. - pipetting). Standard curves prepared with Pacific Hemostasis and Dade brand immunodepleted plasmas were run on 10 days. There was very little variation in the standard curves for both products as evidenced by the slope and R^2 values obtained (range of R^2 values was .996-.999). The following table summarizes the day-to-day standard curves obtained:

Table 16. Summary of Standard Curve Data

	PH Standard Curves n=10	Dade Standard Curves n=10
Mean Slope	-0.285	-0.245
1 SD	0.002	0.006
% CV	0.83	2.42

To determine the precision of the standard curves prepared daily, the recovery of Factor V activity contained in five reference plasmas was determined. The reference plasmas chosen for analysis contain Factor V in the normal, abnormal and markedly abnormal range, they are: 1) a different lot of PH UCRP, 2) PH Abnormal Coagulation Reference Plasma (ACRP), 3-5) PH Abnormal Factor V Controls, Levels 1, 2 and 3. The following table is a summary of the results obtained:

Table 17. Summary of Day-to-Day Precision Studies. Recovery of FV Activity Contained in Reference Plasmas

	% Factor V Activity*									
	UCRP		ACRP		Level 1 Control		Level 2 Control		Level 3 Control	
	PH	Dade	PH	Dade	PH	Dade	PH	Dade	PH	Dade
mean	118.5	125.5	51.7	49.8	48.2	47.5	24.1	22.9	5.9	6.5
1 SD	5.29	7.01	1.78	2.39	3.20	2.67	1.79	0.88	0.74	0.26
% CV	4.5	5.6	3.5	4.8	6.7	5.6	7.4	3.9	12.5	4.0

*n=10 for each reference plasma

The day-to-day recovery of Factor V activity (%CV) contained in four of the five reference plasmas was equivalent for both PH and Dade standard curves (curves prepared using either PH or Dade brand FV immunodepleted deficient plasmas). A slightly higher CV was obtained for the FV Abnormal Level 3 control using the PH immunodepleted plasmas (12.5% versus 4.0%). However, the imprecision observed at this level of Factor V activity is not clinically significant. The assigned Factor V value for this control is 5%, a value that is in the very low abnormal range, and below the normal cut off for both standard curves. This control was included in the analysis to determine the accuracy of extrapolated values at the low end of the range (for internal reference only). It is not recommended to report patient values that fall outside of the linear portion of the standard curve. To determine a patient Factor V value in this range (which is very rare), testing of a different sample dilution would be required. Alternatively, a standard curve representing Factor V activity in the low range could be generated.

The Factor V values obtained for the reference plasmas, using both immunodepleted plasmas, were compared to the assigned Factor V values. The assigned reference Factor V values were plotted against the recovered Factor V values using either PH or Dade brand immunodepleted FV plasmas. Linear regression was done and the slope of the line calculated. A slope of 1.0 with a correlation coefficient of 1.0 indicates exact recovery of Factor V values to the assigned reference values. The recovery of Factor V activity using both immunodepleted plasmas was quite good. The slope and R^2 values obtained using Pacific Hemostasis brand substrate were 0.915 and 0.989, respectively; for Dade, 0.977 and 0.991, respectively.

The reconstituted stability claim for both PH and Dade brand immunodepleted Factor V deficient plasmas is 8 hours at 4°C. To evaluate the reconstituted stability, several vials of each brand of immunodepleted substrate were reconstituted, pooled and stored at 4°C for 8 hours. Standard

curves were prepared utilizing the 8-hour stored plasmas and compared to freshly reconstituted immunodepleted plasmas. The standard curves obtained using fresh and aged plasmas were indistinguishable for both PH and Dade brand deficient substrates, as evidenced by the data in the following table:

Table 18. Summary of 8-Hour Reconstituted Stability

	PH Standard Curve	Dade Standard Curve
Fresh ID Plasma:		
Slope	-0.278	-0.245
R^2	0.999	0.999
8-Hour ID Plasma:		
Slope	-0.284	-0.246
R^2	0.999	0.998

ID = immunodepleted plasma

In addition, the recovery of Factor V activity contained in two reference plasmas (normal and abnormal) was determined using the fresh and 8-hour aged immunodepleted Factor V deficient substrates. The Factor V activity determined in the two reference plasmas was equivalent for both fresh and aged plasmas, supporting the 8-hour reconstituted stability claim. (With PH immunodepleted plasma, the FV value contained in the normal and abnormal reference plasmas changed -3.6% and 3.5% respectively, over the 8-hour time period. With Dade, the FV value contained in the normal and abnormal reference plasmas changed -1.9% and 2.0%, respectively, over the same time period.)

To further assess the reconstituted stability of the immunodepleted plasmas, a quantitative measurement of the Factor VII and Factor X levels contained in freshly reconstituted and 8-hour aged immunodepleted plasma was determined. Factor VII and Factor X were chosen for evaluation since the PT based Factor V assay will also detect deficiencies in both. There was no decrease in Factor VII and Factor X activity observed for both immunodepleted plasmas over the 8-hour incubation time period. These

combined data strongly support the reconstituted stability claim for Pacific Hemostasis Immunodepleted Factor V Deficient Plasma.

Last, the performance of PH and Dade brand immunodepleted Factor V deficient plasmas was evaluated on several different coagulation analyzers. The instruments chosen for evaluation included two manual, one semi-automated and two fully automated coagulation instruments; the Amelung KC 4 A™, BBL® Fibrometer, MLA®-700, MLA®-1000C™ and the ACL-3000PLUS. These instruments represent approximately 80% of the clinical analyzers currently used in this country. All Factor V assays were performed following the instrument manufacturer's protocol. Standard curves were generated using both immunodepleted plasmas and the recovery of Factor V activity contained in the five different reference plasmas was determined.

For all instruments tested, the Factor V activity level recovered in the reference samples using PH immunodepleted plasma was equivalent to that obtained using the Dade product. The Factor V values recovered in the reference plasmas using PH substrate were plotted against those obtained with Dade for each instrument analyzed. Linear regression was performed and the slope of the line calculated. Excellent correlation was obtained on all instruments, with the slope ranging from 0.917-1.196, and the R^2 ranging from 0.992-0.999. When all instrument data was combined, linear regression yielded a slope of 1.068 and an R^2 value of 0.977, suggesting equivalent performance for PH and Dade brand immunodepleted plasmas.

In summary, the indistinguishable intended use, technological characteristics and combined performance data support the substantial equivalence claim for Pacific Hemostasis Immunodepleted Factor V Deficient Plasma to Dade® Immunoadsorbed Factor V Deficient Plasma. *Therefore based on the data provided, it is our conclusion that Pacific Hemostasis Immunodepleted Factor V Deficient Plasma is substantially equivalent to Dade® Immunoadsorbed Factor V Deficient Plasma.*

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
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AUG 13 1997

Re: K972627
Pacific Hemostasis Immunodepleted Factor V Deficient Plasma (ThromboScreen® Brand)
Regulatory Class: II
Product Code: GJT
Dated: July 11, 1997
Received: July 14, 1997

Dear Dr. Worfolk:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (Premarket Approval), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895. A substantially equivalent determination assumes compliance with the current Good Manufacturing Practice requirement, as set forth in the Quality System Regulation (QS) for Medical Devices: General regulation (21 CFR Part 820) and that, through periodic (QS) inspections, the Food and Drug Administration (FDA) will verify such assumptions. Failure to comply with the GMP regulation may result in regulatory action. In addition, FDA may publish further announcements concerning your device in the Federal Register. Please note: this response to your premarket notification submission does not affect any obligation you might have under sections 531 through 542 of the Act for devices under the Electronic Product Radiation Control provisions, or other Federal Laws or Regulations.

Under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88), this device may require a CLIA complexity categorization. To determine if it does, you should contact the Centers for Disease Control and Prevention (CDC) at (770) 488-7655.

This letter will allow you to begin marketing your device as described in your 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4588. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its internet address "http://www.fda.gov/cdrh/dsmamain.html".

Sincerely yours,

Steven Gutman

Steven I. Gutman, M.D., M.B.A.
Director
Division of Clinical
Laboratory Devices
Office of Device Evaluation
Center for Devices and
Radiological Health

Enclosure

510(k) Number (if known):

Device Name: Immunodepleted Factor V Deficient Plasma

Indications For Use:

Pacific Hemostasis Immunodepleted Factor V Deficient Plasma is intended for use in the quantitative determination of Factor V activity in patient plasma. Factor V activity in plasma is assayed by the amount of Prothrombin Time correction produced by the test plasma when mixed with factor deficient plasma. The correction of the unknown is compared to that produced by a reference plasma of known normal activity.

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

Prescription Use ___
(Per 21 CFR 801.109)

OR Over-The-Counter Use ___

(Optional Format 1-2-96)

(Division Sign-Off)
Division of Clinical Laboratory Devices
510(k) Number K972627